

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. A method of sensing multiple parameters comprising:  
  
implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each sensing element is operable through electrical communication with an external controller via an individual interconnect; and  
  
reading an output from at least one of the implantable sensing elements,  
  
wherein a plurality of parameters are read from the implantable sensor at the single site,  
  
and  
  
wherein the output read from at least one of the implantable sensing elements is a quantifiable value.
2. (Original) The method of Claim 1, wherein at least one of the implantable sensing elements is a biological parameter sensor.
3. (Original) The method of Claim 1, wherein at least one of the implantable sensing elements is a physiological parameter sensor.
4. (Original) The method of Claim 1, wherein at least one of the implantable sensing elements is an analyte sensor.
5. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from an implantable sensing element that responds to lactate.

6. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from an implantable sensing element that responds to blood oxygen saturation.

7. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from an implantable sensing element that responds to blood pressure.

8. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from an implantable sensing element that responds to glucose.

9. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from an implantable sensing element that responds to temperature.

10. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from an implantable sensing element that responds to potassium.

11. (Original) The method of Claim 1, wherein reading an output from at least one of the implantable sensing elements comprises reading an output from at least one implantable sensing element that responds to pH.

12. (Original) The method of Claim 1, further comprising administering therapy to the patient based on the output read from the at least one implantable sensing element.

13. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for myocardial ischemia.

14. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for myocardial infarction.

15. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for angina.

16. (Original) The method of Claim 12, wherein administering therapy comprises adjusting a function of an implantable cardiovascular defibrillator disposed within the patient.

17. (Original) The method of Claim 12, wherein administering therapy comprises adjusting a placement of an implantable cardiovascular defibrillator disposed within the patient.

18. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for sepsis.

19. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for septic shock.

20. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for a patient receiving extracorporeal membrane oxygenation.

21. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for a patient undergoing cardiac bypass.

22. (Original) The method of Claim 12, wherein administering therapy comprises administering therapy for a patient during dialysis.

23. (Currently Amended) The method of Claim 1, further comprising classifying a severity of a condition of the patient based on the output read from at least one of the plurality of implantable sensing element.

24. (Original) The method of Claim 1, wherein the patient is in a surgical environment.

25. (Original) The method of Claim 1, wherein the patient is in an intensive care environment.

26. (Currently Amended) A method of evaluating a patient comprising:

implanting an implantable sensor in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each sensing element is operable through electrical communication with an external controller via an individual interconnect;

reading an output from at least one of the implantable sensing elements; and

evaluating the patient based on the output read from the at least one implantable sensing element,

wherein a plurality of parameters are read from the implantable sensor at a single site, and

wherein the output read from at least one of the implantable sensing elements is a quantifiable value.

27. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to lactate.

28. The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to blood oxygen saturation.

29. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to blood pressure.

30. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to glucose.

31. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to temperature.

32. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to potassium.

33. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient based on an output from an implantable sensing element that responds to pH.

34. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient for myocardial ischemia.

35. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient for myocardial infarction.

36. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient for angina.

37. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient having an implantable cardiovascular defibrillator.

38. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient for sepsis.

39. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient receiving extracorporeal membrane oxygenation.

40. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient undergoing cardiac bypass.

41. (Original) The method of Claim 26, wherein evaluating the patient comprises evaluating the patient during dialysis.

42. (Currently Amended) A method of sensing multiple parameters comprising:  
implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements; and  
reading an output from at least one of the implantable sensing elements,  
wherein each of the plurality of implantable sensing elements comprises a power supply,  
wherein a plurality of parameters are read from the implantable sensor at the single site,  
and  
wherein the output read from at least one of the implantable sensing elements is a quantifiable value.

43. (Currently Amended) A method of sensing multiple parameters comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements; and

reading an output from at least one of the implantable sensing elements,

wherein a plurality of parameters are read from the implantable sensor at the single site,

wherein the output read from at least one of the implantable sensing elements is a quantifiable value, and

wherein the plurality of implantable sensing elements comprises a lactate sensing element measuring a parameter for blood lactate level, a blood oxygen saturation sensing element measuring a parameter for blood oxygen level, and a pH level sensing element measuring a parameter for pH level.

44. (New) The method of Claim 43, further comprising the step of administering therapy for myocardial ischemia to the patient based on the output read from the at least one implantable sensing element.

45. (New) The method of Claim 43, further comprising the step of administering therapy for myocardial infarction or angina to the patient based on the output read from the at least one implantable sensing element.

46. (New) The method of Claim 43, further comprising the step of implanting an implantable cardiovascular defibrillator (ICD) into the patient and administering defibrillation on the patient based on the output read from the at least one implantable sensing element.

47. (New) The method of Claim 43, further comprising the step of administering therapy for sepsis or septic shock to the patient based on the output read from the at least one implantable sensing element.

48. (New) The method of Claim 43, further comprising the step of administering therapy for extracorporeal membrane oxygenation (ECMO) to the patient based on the output read from the at least one implantable sensing element.

49. (New) The method of Claim 1, wherein the interconnect between each sensing element and the external controller does not pass through another sensing element.

50. (New) The method of Claim 26, wherein the interconnect between each sensing element and the external controller does not pass through another sensing element.